

**SUPPLEMENTAL AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application No. 09/963,331****Attorney Docket Q66049****AMENDMENTS TO THE CLAIMS**

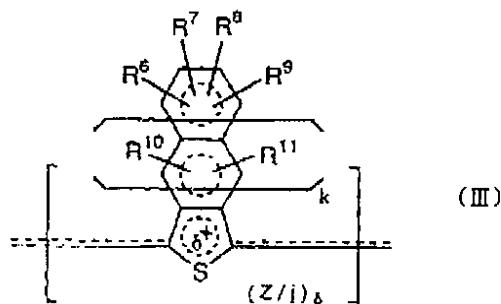
**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

Claims 1-7. (canceled).

Claim 8. (previously presented): A solid electrolytic capacitor comprising a valve acting metal having pores, a dielectric film formed on a surface of the valve acting metal, and a solid electrolyte layer provided on the dielectric film, wherein at least a portion of the solid electrolyte layer is of a lamellar structure,

in which the solid electrolyte layer comprises a composition containing a  $\pi$ -electron conjugate polymer and/or other electrically conducting polymer, in which the electrically conducting polymer is a condensed heteropolycyclic polymer comprising as a repeating unit a structural unit represented by general formula (III) below



wherein the substituents R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> each independently represents a monovalent group selected from the group consisting of a hydrogen atom, a linear or branched, saturated or unsaturated C1-10 alkyl, alkoxy or alkyl ester group, a halogen atom, a nitro

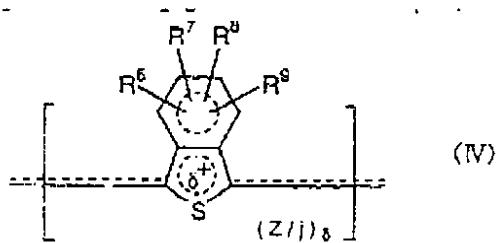
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group, a cyano group, a primary, secondary or tertiary amino group, a trihalomethyl group, a phenyl group and a substituted phenyl group, the alkyl chains of R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> may combine to each other at any position to form at least one divalent chain for forming at least one 3-, 4-, 5-, 6- or 7-membered saturated or unsaturated hydrocarbon cyclic structure together with the carbon atoms to which the substituents are bonded,

the alkyl group, the alkoxy group or the alkyl ester group of R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> or R<sup>11</sup> or the cyclic hydrocarbon chain formed by the substituents may contain any number of any of carbonyl, ether, ester, amide, sulfide, sulfinyl, sulfonyl and imino bonds,

k represents a number of the condensed ring enclosed by the thiophene ring and the benzene ring having substituents R<sup>6</sup> to R<sup>9</sup> and represents an integer of from 0 to 3 excluding a form in which all of R<sup>6</sup> to R<sup>9</sup> represent a hydrogen atom from among derivatives in which k=0, and the condensed ring may optionally contain 1 to 2 nitrogen atoms or N-oxide, δ is in the range of 0 to 1, Z represents an anion, j is a valency of Z and is 1 or 2.

Claim 9. (previously presented): The solid electrolytic capacitor as claimed in claim 8, in which the condensed heteropolycyclic polymer represented by general formula (III) is a condensed heteropolycyclic polymer represented by general formula (IV) below where k=0



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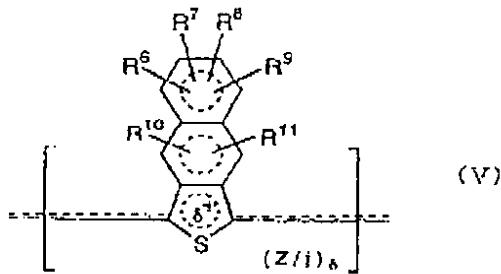
wherein R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, δ, Z and j are the same as in formula (III), and the condensed ring may optionally contain 1 to 2 nitrogen atoms or N-oxide.

**Claim 10. (previously presented): A solid electrolytic capacitor comprising a valve acting metal having pores, a dielectric film formed on a surface of the valve acting metal, and a solid electrolyte layer provided on the dielectric film, wherein at least a portion of the solid electrolyte layer is of a lamellar structure,**

in which the solid electrolyte layer comprises a composition containing a π-electron conjugate polymer and/or other electrically conducting polymer,

in which the electrically conducting polymer is a condensed heteropolycyclic polymer selected from 5,6-dioxymethyleneisothianaphthylene polymer and 5,6-dimethoxyisothianaphthylene polymer.

**Claim 11. (previously presented): The solid electrolytic capacitor as claimed in claim 8, in which the condensed heteropolycyclic polymer represented by general formula (III) is a condensed heteropolycyclic polymer represented by general formula (V) below where k=1**

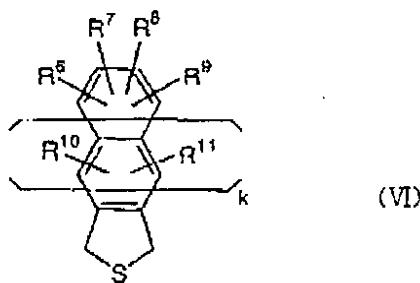


wherein R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup>, R<sup>11</sup>, δ, Z and j are the same as in formula (III), and the condensed ring may optionally contain 1 to 2 nitrogen atoms or N-oxide.

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Claims 12-28. (canceled).

Claim 29. (withdrawn - currently amended): A method for producing a the solid electrolytic capacitor comprising a valve acting metal having pores, a dielectric film formed on a surface of the valve acting metal, and a solid electrolyte layer provided on the dielectric film, wherein at least a portion of the solid electrolyte layer is of a lamellar structure as claimed in claim 8 or 10, the method comprising polymerizing a condensed heteropolycyclic compound represented by the following formula (VI):



wherein the substituents R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> each independently represents a monovalent group selected from the group consisting of a hydrogen atom, a linear or branched, saturated or unsaturated C1-10 alkyl, alkoxy or alkyl ester group, a halogen, a nitro group, a cyano group, a primary, secondary or tertiary amino group, a trihalomethyl group, a phenyl group and a substituted phenyl group, the alkyl chains of R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> may combine to each other at any position to form at least one divalent chain for forming at least one 3-, 4-, 5-, 6- or 7-membered saturated or unsaturated hydrocarbon cyclic structure together with the carbon atoms to which the substituents are bonded,

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the alkyl group, the alkoxy group or the alkylester group of R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> or R<sup>11</sup> or the cyclic hydrocarbon chain formed by the substituents may contain any of carbonyl, ether, ester, amide, sulfide, sulfinyl, sulfonyl and imino bonds,

K represents a number of the condensed ring enclosed by the thiophene ring and the benzene ring having substituents R<sup>6</sup> to R<sup>9</sup> and represents an integer of from 0 to 3, and the condensed ring may optionally contain nitrogen or N-oxide alone or together with another anion having a dopant ability, on the dielectric film formed on a porous valve acting metal surface by the action of an oxidizing agent to form a solid electrolyte layer on the dielectric film.

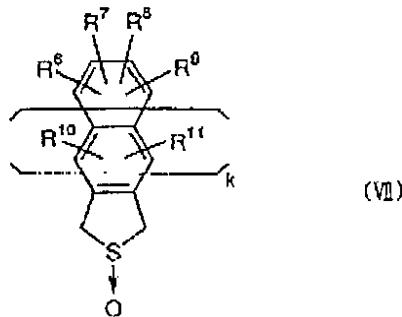
Claim 30. (withdrawn): The method for producing a solid electrolytic capacitor, as claimed in claim 29, in which as the condensed heteropolycyclic compound, there is used at least one member selected from dihydroisothianaphthene, dihydronaphtho[2,3c]thiophene and dihydrothieno[3,4-b]quinoxaline derivatives.

Claim 31. (withdrawn): The method for producing a solid electrolytic capacitor, as claimed in claim 29, in which at least one member selected from 1,3-dihydroisothianaphthene, 5,6-dioxymethylene-1,3-dihydroisothianaphthene, 5,6-dimethoxy-1,3-dihydroisothianaphthene, 1,3-dihydronaphtho[2,3-c]thiophene and 1,3-dihydrothieno[3,4-b]quinoxaline.

Claim 32. (withdrawn - currently amended): A method for producing a-the solid electrolytic capacitor comprising a valve acting metal having pores, a dielectric film formed on a surface of the valve acting metal, and a solid electrolyte layer provided on the dielectric film,

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wherein at least a portion of the solid electrolyte layer is of a lamellar structure as claimed in claim 8 or 10, the method comprising polymerizing a condensed heteropolycyclic compound represented by the following formula (VII):



wherein the substituents R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> each independently represents a monovalent group selected from the group consisting of a hydrogen atom, a linear or branched, saturated or unsaturated C1-10 alkyl, alkoxy or alkyl ester group, a halogen, a nitro group, a cyano group, a primary, secondary or tertiary amino group, a trihalomethyl group, a phenyl group and a substituted phenyl group, the alkyl chains of R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> may combine to each other at any position to form at least one divalent chain for forming at least one 3-, 4-, 5-, 6- or 7-membered saturated or unsaturated hydrocarbon cyclic structure together with the carbon atoms to which the substituents are bonded,

the alkyl group, the alkoxy group or the alkylester group of R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> or R<sup>11</sup> or the cyclic hydrocarbon chain formed by the substituents may contain any of carbonyl, ether, ester, amide, sulfide, sulfinyl, sulfonyl and imino bonds,

and k represents a number of a condensed ring enclosed by the thiophene ring and the benzene ring having substituents R<sup>6</sup> to R<sup>9</sup> and represents an integer of from 0 to 3, and the condensed ring may optionally contain nitrogen or N-oxide alone or together with another anion

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having a dopant ability, on the dielectric film formed on a porous valve acting metal surface by the action of an oxidizing agent to form a solid electrolyte layer on the dielectric film.

Claim 33. (withdrawn): The method for producing a solid electrolyte as claimed in claim 32, in which as the condensed heteropolycyclic compound, there is used at least one member selected from dihydroisothianaphthene-2-oxide, dihydronaphtho[2,3c]thiophene-2-oxide and dihydrothieno[3,4-b]quinoxaline-2-oxide derivatives.

Claim 34. (withdrawn): The method for producing a solid electrolytic capacitor, as claimed in claim 32 in which at least one member selected from 1,3-dihydroisothianaphthene-2-oxide, 5,6-dioxymethylene-1,3-dihydroisothianaphthene-2-oxide, 5,6-dimethoxy-1,3-dihydroisothianaphthene-2-oxide, 1,3-dihydronaphtho[2,3-c]thiophene-2-oxide and 1,3-dihydrothieno[3,4-b]quinoxaline-2-oxide.

Claims 35-75. (canceled).